

WHAT IS CLAIMED IS:

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1. A route selection method for a voice communication system, which system comprises:
- 10 a plurality of networks including IP networks; and
- a plurality of voice gateways, interconnecting said IP networks with the other networks for voice communication,
- 15 said voice gateways being hierarchically divided into first voice gateways for accommodating nodes of said networks other than the IP networks, and second voice gateways for delivering information about the route selection;
- said method comprising the steps of:
- (a) controlling each of said second voice
- 20 gateways to hold a route selection table indicating a correspondence between steering numbers and transport addresses for identifying routes in the IP network;
- (b) controlling one of said first voice
- 25 gateways as an originating voice gateway to transmit a destination inquiring message, including a transport address of said originating voice gateway and a destination office number, to a predetermined one of said second voice gateways in which said
- 30 destination inquiring message is collated with said route selection table thereof and is forwarded towards one of said first voice gateways as a destination voice gateway; and
- (c) controlling said destination voice
- 35 gateway to transmit a destination determination message including a transport address of said destination voice gateway to said originating voice

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2. The route selection method as claimed in claim 1, wherein said step (a) further includes a step of controlling said voice gateway, in a predetermined case, to transmit a steering number and a transport address thereof to said second voice gateway.

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3. The route selection method as claimed  
as claim 1, further comprising a step of:

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(d) controlling said originating voice gateway, after receiving said destination determination message, to record a destination transport address and a destination steering number, which are included in said destination determination message, in a route selection table thereof,

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said route selection table indicating a correspondence between said destination transport address and said destination steering number.

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4. The route selection method as claimed in claim 1, further comprising a step of:

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(e) controlling said originating voice gateway, after receiving said destination determination message, to refer to traffic between said originating voice gateway and said destination

said route selection table indicating a correspondence between said destination transport address and said destination steering number.

5. The route selection method as claimed in claim 3, further comprising a step of:

(f) controlling said originating voice gateway, in a case of failing to set up a call towards said transport address recorded in said route selection table thereof, to transmit said destination inquiring message to said predetermined second voice gateway.

6. The route selection method as claimed in claim 1, further comprising a step of:

(g) deleting said transport address and said steering number from said route selection table, if said transport address recorded on said route selection table is not referred to during a predetermined period.

7. The route selection method as claimed

in claim 1, further comprising a step of:

(h) controlling said second voice gateway, in a case of failing to deliver said route selection information, to transmit a failure message to said  
5 originating voice gateway, so that said originating voice gateway selects the network other than the IP networks to set up the call.

8. The route selection method as claimed in claim 1, further comprising a step of:

(i) notifying said second voice gateway,  
15 when said steering number or said transport address of said voice gateway is changed, of said changed steering number or said changed transport address.

9. A voice gateway interconnecting IP networks with other networks for voice communication, said voice gateway comprising:

25 a call-setup part which after detecting a call-setup request from one of said other networks, transmits a destination inquiring message to a predetermined voice gateway, and after receiving a destination determination message from a destination  
30 voice gateway, performs a call setup towards a destination transport address included in said destination determination message from said destination voice gateway.

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a transmitting part which, in a predetermined case, transmits a steering number and a transport address of said voice gateway to said predetermined voice gateway.

a recording part which records said destination transport address and a destination steering number of said destination voice gateway, which are included in said destination determination message, in a route selection table thereof,

said route selection table indicating a correspondence between said destination transport address and said destination steering number of said destination voice gateway.

a recording part which, after receiving said destination determination message from said destination voice gateway, refers to traffic between said voice gateway and said destination voice gateway, and, only when said traffic meets a predetermined traffic requirement, records said destination transport address and a destination steering number of said destination voice gateway in a route selection table thereof.

said route selection table indicating a

correspondence between said destination transport address and said destination steering number of said destination voice gateway.

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13. The voice gateway as claimed in claim 11, said call-setup part comprising:

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a quick-call-setup part, which after detecting said call-setup request, refers to said route selection table so as to obtain said destination transport address, and then performs said call setup towards said destination transport address; and

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a transmitting part which, in a case of said quick-call-setup part failing to perform said call setup towards said destination transport address, transmits said destination inquiring message to said predetermined voice gateway.

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14. The voice gateway as claimed in claim 11, further comprising:

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a deleting part which deletes said destination transport address and said corresponding destination steering number from said route selection table if said destination transport address recorded on said route selection table is not referred to during a predetermined period.

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15. The voice gateway as claimed in claim

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18. The voice gateway as claimed in claim  
5 17, further comprising:

a transmitting part which, in a  
predetermined case, transmits a steering number and  
a transport address to a predetermined voice  
gateway; and

10 a recording part which, after receiving a  
steering number and a transport address from another  
voice gateway in said predetermined case, records  
said received steering number and said received  
15 transport address in said route selection table  
thereof.

20 19. The voice gateway as claimed in claim  
17, further comprising:

a deleting part which deletes said  
transport address and said corresponding steering  
number from said route selection table if said  
25 transport address recorded in said route selection  
table is not referred to during a predetermined  
period.

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20. The voice gateway as claimed in claim  
17, further comprising:

a failure-message transmitting part which  
35 transmits a failure message to an originating voice  
gateway which has transmitted said destination  
inquiring message, in a case where said destination

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cannot be detected even though said destination inquiring message has been received and said route selection table has been referred to.

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21. The voice gateway as claimed in claim 17, further comprising:

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a notifying part which, when said steering number and said transport address are changed, notifies a predetermined voice gateway of said changed steering number and said changed transport address; and

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a recording part which receives a steering number and a transport address from another voice gateway and records said steering number and said transport address in said route selection table.

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22. A computer readable medium storing program code for controlling a voice gateway interconnecting IP networks with other networks for voice communication, said computer readable medium comprising:

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program code means for, after said voice gateway detects a call-setup request from one of said other networks, controlling said voice gateway to transmit a destination inquiring message to a predetermined voice gateway, and after said voice gateway receives a destination determination message, controlling said voice gateway to perform a call setup towards a destination transport address included in said destination determination message.

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23. A computer readable medium  
5 storing program code for controlling a voice gateway  
interconnecting IP networks and other networks for  
voice communication, said voice gateway comprising:  
program code means for, after said voice  
gateway receives a destination inquiring message,  
10 controlling said voice gateway to refer to a route  
selection table indicating a correspondence between  
steering numbers and transport addresses, and then  
transmit said destination inquiring message towards  
a transport address obtained by referring to said  
15 route selection table.

24. A route selection method for  
20 voice gateways which are hierarchically divided into  
first voice gateways for accommodating nodes of  
networks other than IP networks, and second voice  
gateways for transferring information about a route  
25 selection, said method comprising the steps of:

(a) controlling each of said second voice  
gateways to hold a route selection table indicating  
a correspondence between steering numbers and  
transport addresses for identifying routes on the IP  
30 network;

(b) controlling one of said first voice  
gateways as an originating voice gateway to transmit  
a destination inquiring message, including a  
transport address of said originating voice gateway  
35 and a destination office number, to a predetermined  
one of said second voice gateways in which said  
destination inquiring message is collated with said

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route selection table thereof and is forwarded towards one of said first voice gateways as a destination voice gateway; and

(c) controlling said destination voice gateway to transmit a destination determination message including a transport address of said destination voice gateway to said originating voice gateway.

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